

DISCUSSION OF THE AMENDMENT

Claim 27 has been amended by incorporating the subject matter of Claim 44 therein; Claim 44 has been cancelled. New Claims 57-67 have been added, corresponding to Claims 27-30, 32, 34, 37, 38, 40, 42, and 44, respectively, before the above-discussed amendment to Claim 27, as supported by original Claim 17, and the specification at page 14, line 20 ff.

No new matter has been added by the above amendment. With entry thereof, Claims 1-43 and 45-67 will be pending. Claims 27-30, 32, 34, 37, 38, 40, 42 and 57-67 will be active; Claims 1-26, 31, 33, 35, 36, 39, 41, 43, and 45-56 stand withdrawn from consideration.

REMARKS

As recited in Claim 27, the presently-pending invention is a toner comprising: a binder resin and a particulate wax, wherein the toner has a volume-average particle diameter of from 3 to 12 μm , and a half value width of a number-average particle diameter of particulate wax contained therein, when a cross section of the toner is observed, of 0.06 μm or less, and wherein a distribution of particulate wax having an average particle diameter of 0.01 μm or more throughout the toner satisfies the following equation:

$$(A/B)/(C/D) \leq 0.1$$

wherein A is total area of particulate wax contained in an outermost layer of the toner to a depth of 0.1 μm ; B is total area of said outermost layer of the toner; C is total area of particulate wax contained in a remainder of the toner (at a depth of greater than 0.1 μm from the surface of the toner); and D is total area of said remainder of the toner, wherein all areas are measured as observed in a cross section of said toner through a center point of said toner, and wherein the toner has a 50% circular degree of from 0.95 to 1.

In effect, the toner is substantially free of wax particles at its outermost part, specifically in the area of the depth of 0.1 μm from the surface of the toner, as described in the specification at page 47, line 3, through page 48, line 7, and Fig. 4.

The rejections of Claims 27-30, 32, 34 and 40 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, U.S. 2002/0028402 A1 (Matsuoka et al); and under 35 U.S.C. § 103(a), of Claim 37 as unpatentable over Matsuoka et al combined with U.S. 5,213,932 (Shimazaki); of Claim 38 as unpatentable over Matsuoka et al combined with JP 59-165069 (JP '069); and of Claim 42 as unpatentable over Matsuoka et al combined with U.S. 5,547,802 (Kawase et al), are all respectfully traversed.

Matsuoka et al disclose a toner containing a releasing agent, which is preferably a wax, and which has a content existing at the surface of the toner particles of 0 to 30% by

weight, preferably from 1% to 10% by weight ([0058]). Matsuoka et al define the surface of the toner particles to mean a layer extending from the top to a depth of 0.1 μm ([0059]). The Examiner particularly relies on the exemplified yellow toner in Table 2, wherein the amount of releasing agent on the surface of the toner particles is 4.2% by weight and the releasing agent dispersion diameter is 0.8 μm . The Examiner finds that this exemplified yellow toner inherently meets the terms of the present claims.

Shimazaki is relied on for its disclosure of a magenta colorant. JP '069 is relied on for its disclosure of a magenta colorant. Kawase et al is relied on for a disclosure of ratio of volume mean particle diameter to number average particle diameter.

The Examiner concedes that Matsuoka et al does not disclose the presently-recited “half value width” limitation, i.e., a half value width of a number-average particle diameter of particulate wax contained therein, when a cross section of the toner is observed, of 0.06 μm or less, but presumes that Matsuoka et al’s toner meets this limitation. Applicants respectfully submit that the “half value width” of Matsuoka et al is much larger than 0.06 μm , based on the following reasons:

i) Fig. 2 in Matsuoka et al shows a distribution of the dispersion diameter (d_1) of the releasing agent particles that is relatively wide.

ii) Matsuoka et al discloses “... the releasing agent is dispersed with a particle diameter of preferably 3 μm or less and more preferably in a range from 0.1 to 2 μm ” ([0060]). Matsuoka et al’s measuring method differs from that of the present invention regarding wax diameter. The method of the present invention is determined by observation of the cross section of the toner, as recited in Claim 27; on the other hand, Matsuoka et al’s method is as disclosed in ([0054]) therein. Despite differences in measuring method, the range of 0.1 to 2 μm of Matsuoka et al is much wider than the 0.06 μm maximum recited in Claim 27.

iii) The Examiner refers to page 49, lines 4-11 of the specification. However, immediately thereafter, Applicants describe that where a particulate wax is co-agglomerated with primary polymer particles, the distribution of the number-average particle diameter of the particle wax becomes wider.

See also Reference Synthesis Example, beginning at page 125, line 2, of the specification. In the Reference Synthesis Example and Fig. 8, the number-average particle diameter of particulate wax observed was 201 nm, which was relatively small compared to average particle diameter of the same in the wax dispersion 15, and a half value width of the number-average particulate diameter in the toner was 100 nm, or 0.1 μm .

With such a small half value width of a number average particle diameter of particulate wax, as recited in Claim 27, the toner of the present invention has excellent releasability, excellent blocking resistance and the apparatus is hardly polluted, as described at page 50, lines 15 to 22, of the specification.

In the present Office Action, despite the Examiner's dismissal of all the above arguments regarding Matsuoka et al, Applicants still maintain that Matsuoka et al neither discloses nor suggests the above-recited limitation of $(A/B)/(C/D) \leq 0.1$. While Matsuoka et al may disclose that the number of particles of releasing agent in the surface layer up to 0.1 μm is much less than the number of particles at a depth of 0.1 μm or more, but there is no reason to believe that the above-discussed ratio is satisfied. Nor does Matsuoka et al disclose a method of producing a toner having a releasing agent content in the outermost layer of the toner, less than that of the remainder. Nevertheless, the rejections are moot, in view of the above-discussed amendment, which incorporates Claim 44, which the Examiner finds is drawn to allowable subject matter, into Claim 27.

For all the above reasons, it is respectfully requested that the rejections over Matsuoka et al alone, or combined with other prior art be withdrawn.

The objection to the disclosure with regard to the use of trademarks, at paragraph 4 of the Office Action, is respectfully traversed. As previously argued, there is no requirement that trademarks **must** be capitalized, nor is there any evidence herein that, to the extent any trademarks described in the specification are proprietary, this proprietary nature is not respected. Indeed, Applicants describe the source of trademarked products (see, for example, the specification at page 58, line 24).

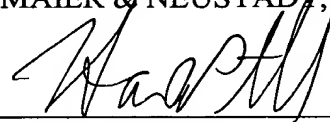
In response, the Examiner finds that the capitalization of trademarks is a USPTO requirement, citing M.P.E.P. § 608.01(v) (Rev. 1, Feb. 2003).

In reply, it is respectfully submitted that the Examiner misapplies the above-referenced M.P.E.P. section, which states that trademarks **should** be identified by capitalizing each letter of the mark (emphasis added). Thus, capitalization is not a requirement. Nevertheless, Applicants have no objection to the Examiner capitalizing trademarks where appropriate by Examiner's amendment, should the application otherwise be in condition for allowance.

All of the presently pending and active claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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